Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 90 of the	)	
Commission's Rules to Provide for Narrowband	)	
Private Land Mobile Radio Channels in the	)	ET Docket No. 04-243
150.05-150.8 MHz, 162-174 MHz, and	)	
406.1-420 MHz Bands that are Allocated for	)	
Federal Government Use	)	

REPORT AND ORDER

Adopted: March 10, 2005 **Released: March 11, 2005**

By the Commission:

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I. INTRODUCTION

1. By this action, we specify the procedures by which a total of 40 Private Land Mobile Radio (PLMR) channels, which are located in frequency bands that are allocated primarily for Federal Government (Federal) use, are to transition to narrower, more spectrally efficient channels in a process commonly known as "narrowbanding."

2. In the June 30, 2004 *Notice of Proposed Rulemaking* (*NPRM*) that established this proceeding,[1] we noted that the National Telecommunications and Information Administration (NTIA) has set deadlines by which Federal operations in the 150.05-150.8 MHz, the 162.0125-173.2 MHz and 173.4-174 MHz (162-174 MHz),[2] and the 406.1-420 MHz bands (collectively, the Federal bands) must transition to 12.5 kHz (narrowband) channels.[3] Specifically, Federal operations in the 162-174 MHz band have been required to be narrowbanded since January 1, 2005 and Federal operations in the 150.05-150.8 MHz and 406.1-420 MHz bands must be narrowbanded by January 1, 2008. Because NTIA has adopted a more rapid narrowbanding schedule in these Federal bands than the Commission has required for its licensees, we recognized that a transition plan was necessary due to the shared Federal and non-Federal Government (non-Federal) use of these bands, and we proposed specific narrowbanding procedures for these bands.

3. This proceeding is necessarily linked to the Commission's own efforts to narrowband channels in order to promote efficient spectrum use and help accommodate increasing PLMR demand. Collectively known as the *Refarming Proceeding*, these decisions set forth a comprehensive plan to transition PLMR operations (including licensees operating in exclusive non-Federal spectrum) from 25 kHz channels to narrower channels.[4] Because our general narrowbanding rules permit non-Federal licensees to operate on channels in excess of 12.5 kHz (wideband operations) until January 1, 2013, it is necessary to establish special rules that will apply to Commission licensees operating in the Federal

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[1] Amendment of Parts 2 and 90 of the Commission's Rules to Provide for Narrowband Private Land Mobile Radio Channels in the 150.05-150.8 MHz, 162-174 MHz, and 406.1-420 MHz Bands that are Allocated for Federal Government Use, ET Docket No. 04-243, *Notice of Proposed Rulemaking*, 19 FCC Rcd 12690 (2004).

[2] We use the term "162-174 MHz band" for convenience and do not intend to suggest that we are modifying herein the Commission's narrowbanding procedures for the 173.2-173.4 MHz band, which is allocated for exclusive non-Federal use.

[3] The Commission, which is an independent agency, administers spectrum allocated for non-Federal use and the NTIA, which is an operating unit of the Department of Commerce, administers spectrum allocated for Federal use. 47 C.F.R. § 2.105(a). NTIA approves the spectrum needs of new systems for use by Federal departments and agencies and maintains the Federal Government Table of Frequency Allocations (Federal Government Table) in its *Manual of Regulations & Procedures for Federal Radio Frequency Management,* May 2003 Edition including the September 2004 Revision (*NTIA Manual*).

[4] Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Service and Modify the Policies Governing Them, *Report and Order and Further Notice of Proposed Rulemaking*, PR Docket No. 92-235, 10 FCC Rcd 10076 (1995) (*Refarming Report and Order*); *Memorandum Opinion and Order*, 11 FCC Rcd 17676 (1997) (*Refarming Memorandum Opinion and Order*); Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 99-87, 15 FCC Rcd 22709 (1999); *Second Report and Order and Second Further Notice of Proposed Rule Making*, WT Docket No. 99-87, 18 FCC Rcd 3034 (2003) (*Narrowbanding Second Report and Order*); *Order*, 18 FCC Rcd 25491 (2003); *Third Memorandum Opinion and Order and Third Further Notice of Proposed Rule Making*, WT Docket No. 99-87 and RM-9332, FCC 04-294, 19 FCC Rcd 25120 (2005) (*Narrowbanding Third MO&O*).

bands.[5] The rules that we adopt herein will provide for continued primary and secondary operations[6] in Federal bands that are being narrowbanded by NTIA, while generally maintaining the narrowbanding procedures that currently apply to all PLMR services in the 150-174 MHz and 421-512 MHz bands.

II. EXECUTIVE SUMMARY

4. We are amending Parts 2 and 90 of the Commission's rules to revise our transition plan for primary and secondary PLMR operations in certain Federal bands. We conclude that these actions will provide for an orderly transition from wideband to narrowband operations, increase spectrum efficiency, maintain compatibility with Federal operations, permit PLMR licensees to operate using existing equipment with greater confidence that their critical operations will not be suddenly required to cease transmissions, and significantly reduce the probability that wideband PLMR operations will interfere with new Federal operations. Specifically, we are narrowbanding 25 Hydrological and Meteorological (Hydro) channels, nine Forest Firefighting and Conservation channels (two of these channels are available to conservation agencies, while all nine are available for firefighting use), two Public Safety channels, three medical radiocommunication system channels (MED channels), and one channel for Stolen Vehicle Recovery System (SVRS). In addition, we are adding 23 Hydro channels to our Rules, removing six Hydro channels (only four of which are currently licensed) from our Rules, and will no longer license two MED channels. The 40 PLMR channels in the Federal bands that we are narrowbanding are listed below.

Table 1: PLMR Channels That Are Being Narrowbanded

Use	Footnote	Center Frequencies (MHz)	Rule Section
Hydro Channels	US13	169.425, 169.450, 169.475, 169.500, 169.525, 170.225, 170.250, 170.275, 170.300, 170.325, 171.025, 171.050, 171.075, 171.100, 171.125, 171.825, 171.850, 171.875, 171.900, 171.925, 406.125, 406.175, 412.675, 412.725, 412.775 (We are also removing channels 169.575, 170.375, 171.975, 409.675, 409.725 and 412.625 from the Hydro channel plan, and adding 23 new narrowband channels)	90.35(b)(3), 90.265(a)
Forest Firefighting and Conservation	US8	170.425, 170.475, 170.575, 171.425, 171.475, 171.575 172.225, 172.275, 172.375	90.20(c)(3)
Public Safety	US11	166.250, 170.150	90.20(c)(3)
MED Channels	US216	150.775, 150.790, 163.250 (We will no longer license channels 150.7825 and 150.7975)	90.20(c)(3)
SVRS	US312	173.075	90.20(c)(3), (e)(6)

[5] Prior to a recent Commission action, the narrowbanding deadline for licensees of frequencies in the Public Safety Radio Pool was January 1, 2018. See para. 27, *infra.*

[6] Because 36 of the PLMR channels in the Federal bands are licensed on the condition that harmful interference (*i.e.*, interference which endangers the functioning of a radionavigation service or of other safety services or that seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with the International Telecommunication Union's *Radio Regulations*; *see* 47 CFR § 2.1(c)) is not caused to Federal operations (that is, these 36 PLMR channels operate on secondary basis), it is particularly vital that we account for the Federal narrowbanding efforts in this spectrum.

5. The transition plan that we adopt today refines certain aspects of the Commission's larger narrowbanding policies, most recently modified in the *Narrowbanding Third MO&O* in the *Refarming Proceeding*, in the following ways:

Primary Operations:

- As of the effective date of this *Report and Order*, we are limiting new MED channel stations that use the frequencies 150.775 MHz and 150.790 MHz to a transmitter output power of 100 watts Effective Radiated Power (ERP).[7] New wideband systems on these frequencies will be authorized on a primary basis until January 1, 2008. Wideband systems licensed prior to January 1, 2008, may be expanded until January 1, 2011, and may continue to operate on a primary basis until January 1, 2013, at which time wideband transmissions must cease;
- As of the effective date of this *Report and Order*, we will not accept applications or issue licenses for new wideband systems that use the MED channel frequency 163.250 MHz. Existing wideband systems on this frequency may be expanded until January 1, 2011, and may continue to operate on a primary basis until January 1, 2013, at which time wideband transmissions must cease. We will not narrowband the non-Federal MED channel paging frequency 152.0075 MHz;
- On a going-forward basis, new non-Federal operations on the three MED channel frequencies in the Federal band (150.775 MHz, 150.790 MHz, and 163.250 MHz) will be limited to medical radiocommunication systems;
- As of the effective date of this *Report and Order*, we will no longer issue new licenses for the frequencies 150.7825 MHz and 150.7975 MHz. However, we will continue to renew existing licenses on these channels indefinitely; and
- The existing SVRS system operated by the LoJack Corporation (LoJack) and police licensees may continue wideband operations until 14 years after the effective date of this *Report and Order*, at which time wideband transmissions must cease. Any new SVRS licensee that begins service after the effective date of this *Report and Order* must operate a narrowband system.

Secondary Operations:

- We revise the Commission's Hydro channel plan by adding 23 channels and by deleting six channels in order to make it consistent with NTIA's plan, and we include the Hydro channels in the 406.1-420 MHz band in our transition plan to 12.5 kHz channels;
- Existing Hydro channel licensees, which operate on frequencies that are being removed from the Hydro Plan (171.975 MHz, 409.675 MHz, 409.725 MHz, and 412.625 MHz), must migrate to a center frequency that is available under the new Hydro channel plan on a timetable that is recommended by the Hydro Committee, agreed to by NTIA, and approved by the FCC;
- As of the effective date of this *Report and Order*, we will not accept applications or issue licenses for new wideband stations for channels whose operation is permitted on a secondary basis (Hydro, Forest Firefighting and Conservation, and the Public Safety channels) in the 162-174 MHz band.
- New wideband Hydro stations in the 406.1-420 MHz band will be authorized on a secondary basis until January 1, 2008.
- Existing wideband systems in the 162-174 MHz band that operate on a secondary basis may be expanded until January 1, 2011, and may continue to operate until January 1, 2013, at which time wideband operations must cease. However, these licensees must modify or discontinue their operations if, at any time, their operations cause interference to new Federal operations

[7] ERP (alternatively, "e.r.p.") in a given direction is the product of the power supplied to the antenna and its relative gain to a half-wave dipole in a given direction. 47 C.F.R. § 2.1.

- Existing wideband Hydro systems in the 406.1-420 MHz band may be expanded until January 1, 2011, and may continue to operate until January 1, 2013, at which time wideband operations must cease. However, these licensees must modify or discontinue their operations if, at any time after January 1, 2008, their operations cause interference to new Federal operations; and

Coordination with Radio Astronomy:

- We revise the list of radio astronomy observatories and the associated areas where prior coordination for fixed operations is required, and modify the power limit for stations in the fixed and mobile services in order to better protect the radio astronomy service (RAS) in the 406.1-410 MHz band.

III. BACKGROUND

6. While the Federal bands are allocated primarily for Federal use and are administered by NTIA, the longstanding limited non-Federal use of these bands that has been authorized is reflected in seven United States footnotes to the Table of Frequency Allocations.[8] In many cases, non-Federal users in these bands operate on a non-interference basis in conjunction with, or in support of, Federal functions. Moreover, most of the channels authorized by these footnotes are subject to the 12.5 kHz channel plan that the Commission adopted in the *Reframing Proceeding* as most recently modified in the *Narrowbanding Third MO&O*. Under the Commission's current narrowbanding schedule, all non-Federal licensees operating on these channels are required to transition to narrowband equipment by January 1, 2013. We first briefly outline the history and use of each of the Federal bands that are the subject of this *Order*, and then we describe the Commission's broader narrowbanding proceeding in greater detail.

A. The 150.05-150.8 MHz Band

7. The 150.05-150.8 MHz band is allocated to the fixed and mobile services on a primary basis for Federal use, and NTIA has principally limited use of these allocations to the military services.[9] In 1974, the Commission established a new medical radio service that had access to both Federal and non-Federal spectrum on a primary basis.[10] Based on recommendations contained in a report of the Interdepartment Radio Advisory Committee (IRAC), non-Federal use of the band was authorized on the upper two channels of the 150.05-150.8 MHz band (150.775 MHz and 150.790 MHz). These MED channels are currently listed in footnote US216.[11]

8. As part of the *Reframing Proceeding*, we established narrowbanding requirements for the 150.775 MHz and 150.790 MHz channels and created two additional PLMR channels – 150.7825 MHz and 150.7975 MHz.[12] Although all four of these MED channels are listed in the Public Safety Radio Pool, only the original two are contained in footnote US216. Because the two new frequencies

[8] 47 C.F.R. § 2.106. The footnotes are US8, US11, US13, US216, US223, US300, and US312. In the Table of Frequency Allocations, United States ("US") footnotes denote stipulations that are applicable to both Federal and non-Federal operations in a particular frequency band.

[9] 47 C.F.R. § 2.106, footnote G30; *see also* NTIA Federal Long-Range Spectrum Plan, September 2000, page 68.

[10] Amendment of Subpart P, Part 89 of the Commission's Rules (Eligibility of Comprehensive Health Services), *Report and Order*, Docket 19576, 30 Rad. Reg. 2d (P&F) 1389 (1974) (*1974 Medical Radiocommunications Systems Report and Order*).

[11] 47 C.F.R. § 2.106, footnote US216.

[12] *See Reframing Report and Order* at Appendix F.

(150.7825 MHz and 150.7975 MHz) are not allocated for non-Federal use, operations on these channels are by default secondary: licensees operate on the condition that their operation not cause harmful interference to Federal stations and, should harmful interference result, that the interfering non-Federal operation must immediately terminate.[13]

9. Since January 1, 1997, all new Federal systems in the 150.05-150.8 MHz band have been required to conform to the narrowband technical standards of 12.5 kHz-wide channels.[14] After January 1, 2008, all Federal systems in the 150.05-150.8 MHz band will be required to conform to the narrowband technical standards.

B. The 162-174 MHz Band

10. The 162.0125-173.2 MHz and 173.4-174 MHz bands (collectively, the 162-174 MHz band) are allocated to the fixed and mobile services on a primary basis for Federal use, and NTIA has generally limited use of these allocations to non-military agencies.[15] NTIA states that the 162-174 MHz band is the primary band for many Federal fixed and land mobile operations in support of safety in the air and at sea; protection of life, property, and natural resources; and research and other functions of the Federal Government.[16]

11. Public Safety Radio Pool licensees in this band are authorized to use: (1) nine Forest Firefighting and Conservation channels by footnote US8; (2) two Public Safety channels by footnote US11; (3) one MED channel by footnote US216; and (4) one SVRS channel by footnote US312. Industrial/Business Radio Pool licensees in this band are authorized to use 23 Hydro channels by footnote US13 and eight wireless microphone channels by footnote US300. In addition, footnote US223 makes a channel available for public coast station use in limited areas near the Canadian border. All non-Federal licenses in the 162.0125-173.2 MHz and 173.4-174 MHz bands are granted on a secondary basis,

[13] Except as otherwise provided for in § 2.102, the assignment and use of frequencies must be in accordance with the Table of Frequency Allocations in § 2.106. 47 C.F.R. § 2.102(a). Operations that are not in accordance with the Table of Frequency Allocations – such as those operating on the frequencies 150.7825 MHz and 150.7975 MHz – may not cause harmful interference to Government stations. 47 C.F.R. § 2.102(c)(3).

[14] *See NTIA Manual* at Section 5.3.5.2, which is titled "Standards for Fixed and Mobile Analog or Digital FM/PM Narrowband Operations (138-150.8, 162-174 and 406.1-420 MHz)."

[15] Prior to a recent NTIA action, the fixed and mobile services in the bands 162.0125-173.2, 173.4-174, and 406.1-420 MHz were allocated on a primary basis to the Federal non-military agencies. 47 C.F.R. § 2.106, footnote G5. However, NTIA has revised footnote G5 to read as follows: "In the bands 162.0125-173.2, 173.4-174, 406.1-410 and 410-420 MHz, use by the military services is limited by the provisions specified in the channeling plans shown in Sections 4.3.7 and 4.3.9 of the NTIA Manual." *See NTIA Manual* at pages 4.1.3. Sections 4.3.7 and 4.3.9 state that the use of these bands by the military services is limited to non-tactical or intra-base operations and by certain provisions. Because footnote G5 applies only to Federal agencies (§ 2.105(d)(5)(iv)) and because the Commission's Rules are explicit that the Federal Government Table is included in Section 2.106 for informational purposes only (§ 2.105(d)(3)), the notice and comment requirements of the Administrative Procedures Act do not apply when a Federal Government footnote is modified. Therefore, we are updating footnote G5 in the list of Federal Government footnotes. See Appendix A. International footnote 5.226, which states that any non-maritime mobile use of the segment 162.0125-162.05 MHz should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service, has been adopted domestically. 47 C.F.R. § 2.106, footnote 5.226. *See* January 14, 2005 letter from Fredrick R. Wentland, NTIA, to Edmond J. Thomas, FCC.

[16] *See* NTIA Federal Long-Range Spectrum Plan, September 2000, pages 65-70. Agencies using these channels include, for example, the Federal Aviation Administration, the Coast Guard, and the Federal Bureau of Investigation.

except that the MED channel (163.250 MHz) and the SVRS channel (173.075 MHz) are authorized on a primary basis.

12. In 1993, NTIA adopted a narrowband channel plan for Federal operation in the band, consisting of 12.5 kHz-wide channels, and noted that non-Federal licensees operating in the band will need to modify their operations to fit within the new channel plan.[17] Since January 1, 1995, all new Federal systems in the 162-174 MHz band have been required to be capable of operating within a 12.5 kHz channel.[18] As of January 1, 2005, all existing Federal systems in the band have been required to operate within a 12.5 kHz channel.[19] In addition, NTIA has modified the Federal Hydro channel plan in its *Manual* and has recommended that we modify footnote US13 accordingly.[20]

C. The 406.1-420 MHz Band

13. The 406.1-420 MHz band is allocated to the fixed and mobile services on a primary basis for Federal use, and NTIA has generally limited use of these allocations to non-military agencies.[21] The 406.1-410 MHz portion of the band is also allocated to the RAS on a primary basis for Federal and non-Federal use.[22] Both Federal and non-Federal entities also use the band to transmit hydrological and metrological data. Footnote US13 lists the eight channels in the band on which Commission licensees may conduct these Hydro operations.

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[17] Memorandum from Bill Gamble, Associate Administrator, Office of Spectrum Management, NTIA to Bill Torak, IRAC Liaison, Office of Engineering and Technology (OET), FCC, dated January 25, 1993. *See NTIA Manual* at Section 4.3.7, which is titled "Channeling Plan for Assignments in the Band 162-174 MHz (12.5 kHz Plan)."

[18] There are limited exceptions. Some Federal operations such as wireless microphones, military equipment used for tactical and/or training operations, and NOAA weather radio stations are exempt from the Federal narrowbanding requirements.

[19] Specifically, wideband assignments for new Federal stations will not be authorized. Renewals for wideband Federal assignments were to be granted up to January 1, 2005, at which time, all Federal assignments have been required to be narrowbanded. Federal wideband assignments may continue to be authorized with an approved waiver. Requests for waivers were to be submitted to the Frequency Assignment Subcommittee (FAS) for approval by NTIA no later than July 1, 2004. NTIA will approve waivers only were it can be determined that the goal of the Federal agencies to narrowband is not being impeded. Since January 1, 2005, Federal systems operating on wideband assignments without waivers operate on a non-interference basis. *See NTIA Manual* at Section 4.3.7.

[20] *See* Letter from Associate Administrator, Office of Spectrum Management, NTIA to Chief, OET, FCC, dated February 24, 2000. See also 47 C.F.R. § 2.106, footnote US13. In its revised Hydro channel plan for the 169-172 MHz band, NTIA made 16 additional channels available and removed three previously available channels.

[21] NTIA has recently revised footnote G5 to state that, in the band 406.1-420 MHz, use by the military services is limited by the provisions specified in the channeling plans shown in Sections 4.3.7 and 4.3.9 of the *NTIA Manual,* which in term state that the use of these bands by the military services is limited to non-tactical or intra-base operations and by certain provisions. In this action, we are updating footnote G5 in the Commission's Rules. See note 15, *supra.* In addition, NTIA permits military tactical fixed and mobile operations to be conducted nationally on a secondary basis to the RAS. 47 C.F.R. § 2.106, footnote G6.

[22] RAS reception in the 406.1-410 MHz band is protected from extraband radiation only to the extent that such radiation exceeds the level which would be present if the offending station were operating in compliance with the technical standards or criteria applicable to the service in which it operates. 47 C.F.R. § 2.106, footnote US74. Additionally, footnote US117 limits the transmitter power density for new authorizations in the 406.1-410 MHz band and requires prior coordination for fixed and base stations near RAS observatories.

14. NTIA's narrowbanding plan for the 406.1-420 MHz band requires that, by January 1, 2008, all Federal assignments operate within a 12.5 kHz channel.[23] NTIA has modified the Federal Hydro channel plan in its *Manual* and has recommended that we modify footnote US13 accordingly.[24] In addition, on March 23, 2000, NTIA requested that footnote US117, which provides the method for protecting RAS reception in the 406.1-410 MHz portion of the band from fixed and mobile operations, be amended to revise the areas where prior coordination for fixed operations is required and to modify the power limit for stations in the fixed and mobile services.[25]

D. The Commission's Narrowbanding Efforts

15. On June 15, 1995, the Commission, in its *Refarming Report and Order*, adopted a new channel plan based on narrowband channels in those segments of the 150-174 MHz and 421-512 MHz bands that are available for PLMR use.[26] Under the approach initially adopted, type accepted equipment was required to operate on 12.5 kHz or smaller channels after August 1, 1996, and licensees were expected to begin using narrowband channels as they replaced or upgraded equipment.[27] The Commission subsequently clarified that the general narrowbanding requirement did not apply to SVRS systems operating on the 173.075 MHz frequency.[28]

16. The *Narrowbanding Second R&O*, adopted in 2003, established a specific schedule for the migration of PLMR systems to 12.5 kHz or narrower technology in the 150-174 MHz and 421-512 MHz bands: Beginning January 1, 2005, we would not certify equipment that incorporates capability to

[23] In order to remain on a wideband channel in the 406.1-420 MHz band after that date, NTIA requires that a waiver request be recommended for approval by the IRAC's Frequency Assignment Subcommittee (FAS) and approved by NTIA. Even if a waiver is approved, the assignment may be revoked within 180 days of a formal notice, under certain conditions. *See NTIA Manual* at Section 4.3.9, Conditions and Limitations 1.c. Similar waiver procedures for the 162-174 MHz band are currently being considered by NTIA.

[24] *See* Letter from Associate Administrator, Office of Spectrum Management, NTIA to Chief, OET, FCC, dated February 24, 2000. See also 47 C.F.R. § 2.106, footnote US13. In its revised Hydro channel plan for the 406.1-420 MHz band, NTIA made seven additional channels available and removed three previously available channels.

[25] *See* Letter from Associate Administrator, Office of Spectrum Management, NTIA to Chief, OET, FCC, dated March 23, 2000. See also 47 C.F.R. § 2.106, footnote US117.

[26] In the *Refarming Report and Order*, the Commission adopted a narrowband channel plan based on existing channel center frequencies. The Commission listed channels every 7.5 kHz in the 150-174 MHz band (instead of 15 kHz) and every 6.25 kHz in the 421-512 MHz bands (instead of 25 kHz), but allowed a flexible approach whereby users can choose equipment which best fits their needs by aggregating up to the equivalent of four narrowband channels. This approach provides users with the option of utilizing equipment designed to operate with 5 kHz, 6.25 kHz, 12.5 kHz, or 25 kHz channel bandwidths. Channels designated for paging-only use were not narrowbanded. *See Refarming Report and Order*, 10 FCC Rcd at 10108, para. 57, n. 116. *See also* 47 C.F.R. § 90.203(j)(7).

[27] *Refarming Report and Order*, 10 FCC Rcd at 10099, para. 38. Under the provisions that are currently in effect, equipment must meet a spectrum efficiency standard of one voice channel per 12.5 kHz of channel bandwidth. Additionally, for data transmissions, the equipment must be capable of supporting a minimum data rate of 9600 bits per second per 12.5 kHz of channel bandwidth. 47 C.F.R. § 90.203(j)(3). Operations using equipment designed to operate with a 12.5 kHz channel will be authorized a 11.25 kHz bandwidth. *See* 47 C.F.R. § 90.209(b)(5), note 3 to the table.

[28] *Refarming Memorandum Opinion and Order*, 11 FCC Rcd at 17717. The maximum authorized bandwidth for transmitters used for SVRS on 173.075 MHz is 20 kHz. 47 C.F.R. §§ 90.203(j)(9), 90.20(e)(6).

operate with one voice path per 25 kHz of spectrum, *i.e.* equipment that includes a 25 kHz mode.[29] PLMR systems operating in the 150-174 MHz and 421-512 MHz bands were to migrate to 12.5 kHz technology no later than January 1, 2013 for the Industrial/Business Radio Pool and January 1, 2018 for the Public Safety Radio Pool. The *Narrowbanding Second R&O* also set January 13, 2004, as the date by which we would cease accepting license applications for new operations using 25 kHz.[30] In order to consider the eighteen petitions for reconsideration filed in response to the *Narrowbanding Second R&O*, we subsequently stayed effectiveness of the January 13, 2004 date for the rejection of new wideband applications.[31]

17. On June 30, 2004, we adopted the *NPRM* in this proceeding.[32] The *NPRM* set forth a comprehensive proposal to narrowband the Commission-licensed services that operate on the Federal bands. As discussed in greater detail, below, the *NPRM* addressed six MED channel frequencies, and asked, *inter alia,* whether we should add limitations to the use of two MED channels used for paging (152.0075 MHz and 163.250 MHz). The *NPRM* also addressed use of the SVRS frequency and the ability of operators to deploy new narrowband equipment. In response, six comments were filed and no reply comments were filed.[33] Five of the six commenters addressed our proposals to modify the two MED paging channels. One of these commenters also addressed Public Safety use of the other MED channels and use of the Public Safety channels. The sixth commenter, LoJack, offered a plan for migrating its SVRS system from wideband to narrowband operations. We received no comments addressing our proposals to adopt narrowbanding procedures for the Hydro channels (US13), and the Forest Firefighting and Conservation channels (US8); to retain the existing bandwidth for a public coast station channel (US223) and the wireless microphone channels (US300); and to modify our radio astronomy protection procedures (US117).

18. Subsequent to release of the *NPRM*, we adopted the *Narrowbanding Third MO&O*. That action set forth the general narrowbanding dates that are now in effect: No later than January 1, 2013, both Industrial/Business and Public Safety Radio Pool licensees operating PLMR systems in the 150-174 MHz and 421-512 MHz bands must migrate completely to 12.5 kHz narrowband technology or, as an alternative, meet an equivalent technology standard.[34] The *Narrowbanding Third MO&O* established a January 1, 2011 cut-off date, after which applications for new and expanded operations using a bandwidth greater than 12.5 kHz will be accepted only to the extent that the equipment meets the equivalent technology standard. The *Narrowbanding Third MO&O* also retained wideband paging channelization in non-Federal bands. It also left for this proceeding resolution of the issue of whether the paging frequency 163.250 MHz, which is within a Federal band, should be narrowbanded, and deferred

[29] *Narrowbanding Second Report and Order*, 18 FCC Rcd at 3038, para. 12.

[30] 47 C.F.R. § 90.209(b)(6). This policy was also to apply to license modifications that would expand the authorized contour of an existing station if the bandwidth for transmissions specified in the modification application is greater than 12.5 kHz.

[31] Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Order*, 18 FCC Rcd 25491 (2003).

[32] See note 1, *supra.* Comments were due on September 2, 2004; and reply comments were due on September 17, 2004. *See* 69 FR 46462 (August 3, 2004).

[33] See Appendix C for the list of commenting parties.

[34] The equivalent technology standard permits the use, manufacture, and importation of equipment operating on channel bandwidths up to 25 kHz, to the extent that the equipment meets the spectrum efficiency standard of one channel per 12.5 kHz of channel bandwidth (voice) or 4800 bits per second per 6.25 kHz (data).

action with regard to whether measures should be adopted to encourage the transition to 6.25 kHz channels in the Federal bands.

IV. DISCUSSION

19. In this *Report and Order*, we undertake a narrow and specific task—the narrowbanding of non-Federal operations in bands allocated primarily for Federal use. First, we review the Commission's narrowbanding requirements, as most recently modified by the *Narrowbanding Third MO&O*, and, as appropriate, account for the unique spectrum sharing situation inherent in the Federal bands by adopting procedures that are consistent with the proposals we made in the *NPRM*. Second, we will look at the services operating in those bands and address additional service-specific matters that will further our narrowbanding goals for non-Federal operations in the Federal bands.

A. Refining the Commission's Narrowbanding Proceedures for the Federal Bands

20. *Proposals*. As an initial matter, we noted in the *NPRM* that the Commission has not adopted narrowbanding requirements for the 406.1-420 MHz band, in which certain Hydro channels are located, and we proposed to include those Hydro channels in our transition plan to 12.5 kHz channels.[35] The *NPRM* also proposed to implement the deadlines for mandatory migration of existing licensees to narrowband technology established in the *Refarming Proceeding* and as then set forth by the *Narrowbanding Second R&O*. However, we also stated that, to the extent the narrowbanding deadlines were modified on reconsideration, we intended to adopt narrowbanding requirements consistent with the revised dates.[36]

21. With respect to new and expanded systems operating in the Federal bands, the *NPRM* proposed to align the licensing of these facilities with NTIA's narrowbanding schedule. Specifically, we proposed to require that new Forest Firefighting and Conservation and new Public Safety stations in the 162-174 MHz band, as well as new medical radiocommunication systems at 163.250 MHz, operate using narrowband equipment no later than January 1, 2005; and that new medical radiocommunication systems operating at 150.775 MHz and 150.790 MHz begin using narrowband equipment no later than January 1, 2008.[37] For Hydro channels in the 162-174 MHz and 406.1-420 MHz bands, we also proposed to apply the same 2005 and 2008 dates, respectively, but proposed to provide an exception if the Hydro Committee recommended that an application be granted and NTIA approved the request.[38] We also proposed to allow for a similar exception that would, in limited cases, allow for new or expanded wideband operations on the Forest Firefighting and Conservation and the public safety channels after January 1, 2005.

22. In the Federal bands, the Commission issues licenses on a primary basis for three MED channels (150.775 MHz, 150.790 MHz and 163.250 MHz).[39] Two of the MED channels (150.775 MHz

[35] *NPRM* at paras. 3 and 19.

[36] *NPRM* at note 45.

[37] *NPRM* at paras. 3, 41, and 42.

[38] *NPRM* at para. 21. "Hydro Committee" is the common name for the Hydrological Radio Frequency Coordination Group within the Department of Commerce, which administers the national hydrological data collection activities conducted by users of these frequencies.

[39] The Commission also authorizes SVRS operations, which transmit on the frequency 173.075 MHz, on a primary basis. We discuss the SVRS channel in paras. 47-50, *infra*.

and 150.790 MHz) are to be used only for mobile station transmissions.[40] The other MED channel (163.250 MHz) is assigned only for one-way paging communications to mobile receivers.[41] In the *NPRM*, we proposed to require that licensees operating on these MED channels narrowband their operations by January 1, 2018 in order to maintain their primary status.[42] We requested comment on whether a paging channel (152.0075 MHz) that is within a band allocated primarily for non-Federal use should be narrowbanded.[43]

23. With respect to the 28 channels that are authorized on a secondary basis in the 162-174 MHz band (*i.e.*, the Hydro, Forest Firefighting and Conservation, and Public Safety channels), we proposed to explicitly recognize NTIA's narrowbanding schedule that authorizes Federal agencies to use new narrowband channels that are only 12.5 kHz away from the center frequency of non-Federal stations that are authorized on a secondary basis. Specifically, we proposed to require that these licensees modify or discontinue their operations if, at any time after January 1, 2005, they cause harmful interference to new Federal operations. Likewise, for the eight Hydro channels in the 406.1-420 MHz band that are authorized on a secondary basis, we proposed to require that these licensees modify or discontinue their operations if, at any time after January 1, 2008, they cause harmful interference to new Federal operations.[44]

24. Finally, the *NPRM* observed that the current narrowbanding schedule, which sets a January 1, 2005 date by which all new certified equipment in the 150-174 MHz and 421-512 MHz bands must be designed to operate on channels of 6.25 kHz or less, does not make an exception for stations operating in the Federal bands even though NTIA has not established a 6.25 kHz channelization plan for Federal users on these bands.[45] We asked whether we should exempt equipment designed for use in the Federal bands from the 6.25 kHz certification requirement.

25. *Comments*. In response to the *NPRM*, ADCOMM Engineering (ADCOMM), the Department of Communications for Thurston County, Washington, and Valley Communications Center (collectively, the 152 MHz Paging Commenters) urge us not to narrowband the paging channel 152.0075 MHz but to instead retain a 25 kHz-wide channel indefinitely or for at least 15 years so that the existing systems can be fully amortized and so that replacement system funds can be built up.[46] Similarly,

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[40] The use of the frequencies 150.775 MHz and 150.790 MHz is limited to mobile stations in column 2 (titled "class of station") of the Public Safety Frequency Table. 47 C.F.R. § 90.20(c)(3). Base stations may also be authorized to operate, but only on a secondary basis. *See* note 67, *infra*.

[41] 47 C.F.R. § 90.20(c)(3), (d)(13) and (d)(30).

[42] *NPRM* at 39. In the *Narrowbanding Third MO&O*, we advanced the mandatory migration date for licensees in the Public Safety Radio Pool to January 1, 2013. Previously, in the *Narrowbanding Second R&O*, we had established deadlines of January 1, 2018 for licensees of the Public Safety Radio Pool and January 1, 2013 for licensees in the Industrial/Business Radio Pool for mandatory migration to narrowband technology for PLMR systems in the 150-174 MHz and 421-512 MHz bands.

[43] *NPRM* at para. 42.

[44] *NPRM* at para. 3, first bullet.

[45] *NPRM* at para. 12. The requirement is codified at 47 C.F.R. § 90.203(j)(5).

[46] ADCOMM Comments at 5; Thurston County Department of Communications (CAPCOM) Comments at 5; Valley Communications Center (VALLEY COM) Comments at 5. The 152 MHz Paging Commenters state that many first responders and their associated dispatch centers have begun to implement their own alphanumeric paging systems because commercial paging providers have been unable to guarantee the speed-of-paging requirements and network (continued....)

Yamhill Communications Agency (Yamhill) urges that we not take any action with regard to 163.250 MHz that would require existing Public Safety licenses to replace wideband paging equipment prior to January 1, 2018, suggesting that that date would provide reasonable time for existing licensees to amortize recently purchased equipment.[47]

26. In their joint comments, the International Municipal Signal Association and the International Association of Fire Chiefs, Inc. (IMSA/IAFC) request that we permit any new stations operating on two primary MED channels, 150.775 MHz and 150.790 MHz, to operate on wideband channels until 2018 and not the 2008 date we had proposed.[48] IMSA/IAFC argue that public safety agencies are budget-constrained and that a 2008 deadline would prove detrimental to a number of public safety agencies.

27. *Effect of the Narrowbanding Third MO&O.* The *Narrowbanding Third MO&O* established January 1, 2013 as the date by which licensees operating PLMR systems in the 150-174 MHz and 421-512 MHz bands must migrate completely to 12.5 kHz narrowband technology.[49] This action advanced the narrowbanding deadline for public safety systems, which had been 2018, by five years and retained the 2013 deadline for Industrial/Business Radio Pool licensees. As discussed *supra*, the *Narrowbanding Third MO&O* also established an efficiency standard that could be employed as an alternative to the use of 12.5 kHz channels.[50] The *Narrowbanding Third MO&O* also extended to January 1, 2011 the time period during which applications for new wideband operations and for modification of operations that expand the authorized contour of an existing wideband station would be accepted. After January 1, 2011 (which is two years before the mandatory migration date), applications for new and expanded operations using a bandwidth greater than 12.5 kHz will be accepted only to the extent that the equipment meets the equivalent technology standard. Finally, in the *Narrowbanding Third MO&O*, we declined to narrowband non-Federal paging channels and deferred action with regard to whether measures should be adopted to encourage the transition to 6.25 kHz channels in the Federal bands.[51]

28. *Decision.* As described below, we are largely adopting our proposals, as modified to reflect the narrowbanding dates as modified by the *Narrowbanding Third MO&O.* As an initial matter, we are including the 406.1-420 MHz band in our transition plan to narrowband channels.[52] No

(Continued from previous page)
reliability requirements demanded by critical safety providers. *See* ADCOMM Comments at 2, CAPCOM Comments at 2, and VALLEY COM Comments at 2.

[47] Yamhill Comments at 3. *See also* ADCOMM Comments at 5 (asking that we not narrowband this frequency).

[48] *See* IMSA/IAFC Comments at 4-5. At the time IMSA/IAFC filed its comments, the Commission's narrowbanding plan would have permitted existing Public Safety licensees to operate on wideband channels until 2018.

[49] *Narrowbanding Third MO&O* at para. 13.

[50] *See supra* para. 18; *Narrowbanding Third MO&O* at 30.

[51] *See Narrowbanding Third MO&O* at 34. (noting that the paging channel at 163.250 MHz is in a Federal band); In the *Narrowbanding Third Further NPRM*, we sought comment on a Petition to Defer the enforcement of Section 90.203(j)(5) for the 150.8-162.0125 MHz, 173.2-173.4 MHz, and 421-512 MHz bands, which are non-Federal bands. We stayed the January 1, 2005 deadline for filing applications for new wideband systems in Section 90.203(j)(5).

[52] For convenience, we will use "406-512 MHz," instead of 406.1-420 MHz and 421-512 MHz in subsequent text and in the final rules. However, no licensees are listed in the Commission's Universal Licensing System database for the 420-421 MHz portion of this band.

commenters addressed this proposal. We conclude that action is necessary to address the federal narrowbanding matters in a complete and comprehensive manner, and because secondary users in these bands will be directly affected by the Federal narrowbanding efforts and Hydro channel plan modifications.[53] Also, by providing a narrowbanding procedure for existing non-Federal Hydro operations in the band, we will aid the Hydro Committee in its efforts to make the most efficient use of the new channel plan. Those actions that we proposed to take effect on January 1, 2005, will necessarily instead be tied to the effective date of the *Report and Order*.

29. For new stations in the Federal bands we are adopting deadlines, as proposed in the *NPRM*, that align with Federal narrowbanding requirements: As of the effective date of this *Report and Order*, we will not accept applications or issue licenses for new wideband Hydro, Forest Firefighting and Conservation, Public Safety, and MED channel systems in the 162-174 MHz band. We will authorize new wideband operations for the MED channel frequencies 150.775 MHz and 150.790 MHz and Hydro channels in the 406.1-420 MHz band only until January 1, 2008. Although we do not believe that NTIA will generally agree to waiver requests for wideband operations in the Federal bands, we will consider granting wideband applications after these dates, if accompanied by a waiver request, in the following circumstances: for Forest Firefighting and Conservation channels, if a waiver has been recommended by a sponsoring Federal agency and if NTIA agrees with the recommendation; and for public safety use of the frequency 166.25 MHz and 170.15 MHz, if NTIA agrees to the grant of the waiver application. In addition, we recognize the role of the Hydro Committee in promoting efficient use of the Hydro channels by both Federal agencies and non-Federal licensees, and realize that the Hydro Committee is in the best position to recommend the narrowband transition cycle for specific Hydro channel users. As such, we intend to support applications for new wideband channels after the Federal wideband cut-off dates, if such a grant is recommended by the Hydro Committee and is accompanied by NTIA's concurrence.

30. We conclude that the deadlines are necessary and appropriate for the class of Commission licensees that maintain operations on these Federal bands, particularly in light of NTIA's policy to no longer authorize wideband assignments.[54] Although IMSA/IAFC's request that we employ a 2018 cut-off date for new wideband applications in the two primary MED channels might have short-term financial benefits for budget-constrained agencies, doing so would compromise NTIA's efforts to expand the band by adding efficient new narrowband channels, would create even greater disparities between Federal and non-Federal operations in the band, and would not change the ultimate transition to narrowband channels. Moreover, the 2008 cut-off for new wideband stations still allows applicants for Commission licenses in the band to take account of the narrowbanding requirement we adopt today prior to deciding whether to seek use of those two channels for new facilities.

31. For existing wideband systems operating in the Federal bands, we will maintain the January 1, 2011 deadline for system expansions and the January 1, 2013 as the date by which all licensees must migrate completely to 12.5 kHz narrowband technology. This action reflects the deadlines recently adopted in the *Narrowbanding Third MO&O*.

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[53] The Commission's Rules are explicit on the relationship between stations operating on a primary and secondary basis. Specifically, stations of a secondary service: (i) Shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date; (2) Cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date; and (iii) Can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date. 47 C.F.R. § 2.105(c)(2).

[54] *See NTIA Manual* at § 4.3.7 at the Conditions and Limitations that apply to wideband operations.

32. We will continue to recognize primary status for MED channels in the Federal bands that are listed in footnote US216 (150.775 MHz, 150.790 MHz and 163.250 MHz) and we will continue to treat these MED channels in a similar manner to all other primary land mobile licensees under the Commission's jurisdiction. Users of these channels still must narrowband their operations by the same January 1, 2013 deadline we have established for all other licensees in the Federal bands.[55] Our approach preserves our traditional first-in-time policy by which the first licensed entity does not have to modify its operations but instead maintains a primary status in relation to subsequently licensed entities. Under this policy, an existing wideband MED channel operation is entitled to protection from interference from new Federal operations and non-Federal licensees that subsequently begin operations in the band, and will not need to modify existing operations to prevent interference to these new entrants. We expect that NTIA will protect these wideband operations from harmful interference from new or modified Federal operations in the band until the January 1, 2013 narrowbanding date.

33. For existing licensees operating in the Federal bands on a secondary basis – specifically, users of the Hydro, Forest Firefighting and Conservation, and the Public Safety channels – we note that NTIA may now authorize new Federal operations in the 162-174 MHz band on channels that are only 12.5 kHz away from the center frequencies of non-Federal licenses. After January 1, 2008, NTIA may authorize new Federal operations in the 406.1-420 MHz bands that are only 12.5 kHz away from the center frequencies of non-Federal Hydro stations that operate on a secondary basis. Thus, while we will permit these licensees to continue to operate on wideband channels on a non-interference basis until as late as 2013, we emphasize that they must modify or discontinue wideband operations if, at any time (for the 162-174 MHz band), and at any time after January 1, 2008 (for the 406-416 MHz band), they cause interference to new Federal operations.[56] Once a Federal agency begins narrowband operations, these non-Federal licensees must be prepared to accept harmful interference, and will be subject to termination if harmful interference is caused to Federal operations. Termination of operations will be required regardless of the length of advance notice, as well as in cases where we are unable to provide advance notice. We will, of course, closely work with NTIA under the auspices of the FAS of the IRAC to provide as much advance notice as possible to non-Federal licensees that a proposed Federal assignment has been filed with NTIA.

34. Consistent with our decision in the *Narrowbanding Third MO&O*, we will not narrowband the MED channel at 152.0075 MHz, which is used for paging. This channel is within a band that is allocated primarily for non-Federal use, is not subject to NTIA's narrowbanding efforts, and thus will continue to follow the Commission's Rules regarding paging operations. In the *Narrowbanding Third MO&O*, we stated that paging channels are neither congested nor do they typically create interference problems given, for example, their relatively short duty cycle.[57] We agree with the 152 MHz Paging Commenters that there are benefits to retaining wideband operations on this channel, and

[55] Doing so will harmonize non-Federal use with Federal use to permit greater spectrum efficiency, but will also provide migration time to existing MED channels licensees. As we noted in the *NPRM*, narrowband equipment has been available for the mobile channels (150.775 MHz and 150.790 MHz) for more than eight years. *NPRM* at para. 41.

[56] In the 150.05-150.8 MHz band, it is unnecessary to address secondary operations. In this Federal band, there are only five channels that have been licensed for non-Federal use. The three MED channels listed in footnote US216 operate on a primary basis and a staff review of the 57 licenses that authorize operation on the frequencies 150.7825 MHz and 150.7975 MHz found that only narrowband channels have been authorized.

[57] *Narrowbanding Third MO&O* at 33.

conclude that such benefits outweigh any benefits that would be realized from narrowbanding all frequencies used by medical radiocommunication systems.[58]

35. We will, however, include the MED channel at 163.250 MHz in our narrowbanding requirements.[59] We distinguish this channel from other paging channels because it operates within the Federal bands, and note that NTIA did not grant Federal agencies a paging exemption in its narrowbanding plan. The Department of Veterans Affairs (VA) is currently moving to narrowband its paging operations to meet NTIA's mandated narrowbanding schedule. Given our desire to limit the potential for interference between existing licensees and new NTIA-approved operations on a channel used for important medical paging applications, we conclude that it is appropriate for us to apply the January 1, 2013 narrowbanding deadlines to this channel.[60] We note, however, that any wideband operations on this channel are subject to termination if harmful interference is caused to Federal operations.

36. Lastly, we find that it is unnecessary and potentially detrimental to our narrowbanding efforts to require that non-Federal licensees to use 6.25 kHz channels in the Federal bands in advance of Federal agencies at this time, and will modify our Rules accordingly.[61] We see no advantage to this requirement in the Federal bands, given the uncertainty as to if or when Federal entities will begin using 6.25 kHz channels.

B. Service Specific Matters

1. MED Channels (US216)

37. *Background.* We have discussed, above, the narrowbanding requirements for three MED channels – 150.775 MHz, 150.795 MHz, and 163.250 MHz. In this section, we address additional licensing and operational requirements for these frequencies, as well as the disposition of two additional frequencies associated with the MED channels.[62]

38. In 1974, the Commission adopted, in concurrence with NTIA, footnote US216.[63] This footnote authorizes Federal and non-Federal use of medical radiocommunication systems (*i.e.* the MED

[58] We decline to adopt a specific time period (such as 15 years) by which this channel will remain wideband, as suggested by some commenters. If and when we re-evaluate the channel size, parties will have ample opportunity to address any proposals we make.

[59] The 163.250 MHz frequency is available only for one-way paging communications to mobile receivers and it may be used for base or mobile stations with an authorized a channel bandwidth of 25 kHz. Transmissions for purpose of activating or controlling remote objects are not permitted. *See* 47 C.F.R. § 90.20(d)(13) and (30).

[60] Although Yamhill suggested that we employ a 2018 cut-over date, we see no reason why we should distinguish this band from other Public Safety channel licenses that, pursuant to the decision adopted in the *Narrowbanding Third MO&O*, must deploy narrowband equipment no later than January 1, 2013.

[61] Specifically, we are removing the Federal bands from 47 C.F.R. §§ 90.203(j)(3), (j)(4), and (j)(5). Equipment in the Federal bands will be certified under 47 C.F.R. § 90.203(j)(2).

[62] We also briefly discuss use of the non-Federal channel paging channel 150.0075, a channel that we have decided, *supra*, not to narrowband.

[63] Until recently, the Commission used the terms "Government" and "non-Government." Because the Commission licenses state and local governmental entities, we are now using the terms "Federal Government" and "non-Federal Government." After introducing these terms, we shorten them to "Federal" and "non-Federal." Footnote US216 uses the old style and thus authorizes "Government/non-Government operations in medical radiocommunications systems."

channels), and makes available three frequencies (150.775 MHz, 150.790 MHz, and 163.250 MHz) in Federal bands.[64] These Federal band channels, plus two additional frequencies (150.7825 MHz and 150.7975 MHz) are listed in the Commission's Public Safety Pool Frequency Table. Our rules limit stations operating on these channels to a maximum allowable ERP of 500 watts.[65] In the Public Safety Pool Frequency Table, four of the frequencies (150.775 MHz, 150.7825 MHz, 150.790 MHz, and 150.7975 MHz) ("mobile channels") are normally assigned to mobile stations, and frequency coordination is conducted through the Emergency Medical Coordinator (PM).[66] The frequency 163.250 MHz (a "paging channel") is available only for one-way paging communications to mobile receivers, and is coordinated by the Special Emergency Coordinator (PS).[67]

39. In its *Manual*, NTIA sets forth a plan for bio-medical telemetry and medical radiocommunications, including the frequencies 150.775 MHz and 150.790 MHz, that is consistent with the Commission's 1974 decision that established the MED channels. Section 4.3.11 of the NTIA *Manual* limits the use of these frequencies to mobile stations only and to 2.5 watts output power, and states that use of these channels may be authorized only for the purpose of conducting radio operations for the delivery or rendition of medical services to individuals, and only for voice communications from a portable (hand-held) unit, that is not airborne, to an ambulance or other emergency vehicle for automatic retransmission (mobile-repeater) on a regular mobile frequency to a base station facility.[68] The Commission's Rules have been modified over the years, and currently provide for more expansive use of these channels than NTIA's provisions.[69] Non-Federal use of these mobile channels, in many cases, has

[64] Footnote US216 also provides for MED Channel use on three non-Federal bands, of which only the frequency 152.0075 MHz is affected by this proceeding. As discussed *supra*, we are not narrowbanding the channel 152.0075.

[65] The frequencies 150.7825 MHz and 150.7975 MHz were added to Part 90 of our Rules in 1995. *See Refarming Report and Order*, *supra*, at n.3. The Public Safety Pool Frequency Table is codified at 47 C.F.R. § 90.20(c)(3). The 500 watt limit is contained in Section 90.205(d) of its Rules, which sets forth power and antenna height limits for the 150-174 MHz band. At 15 meters (49.21 feet) HAAT and greater, table 1 limits non-Federal licensees to 500 watts ERP, and sets forth additional height requirements based on the licensee's service area radius.

[66] Additionally, base stations may be authorized to operate on a secondary basis on frequencies below 450 MHz which are available to mobile stations. 47 C.F.R. § 90.173(h).

[67] 47 C.F.R. § 90.20(c)(3), limitations 13 and 30; and 47 C.F.R. § 90.20(d)(13) and (30). Specifically, these frequencies are authorized a channel bandwidth of 25 kHz notwithstanding §§ 90.203 and 90.209.

[68] *NTIA Manual* at Section 4.3.11. We note that, in the *NTIA Manual*, the use of the frequencies 152.0075 MHz and 163.250 MHz is limited to "base" stations, which may be authorized only for one-way paging communications to mobile receivers and not for the purpose of activating or controlling remote units. Thus, our use restrictions for these frequencies effectively mirror NTIA's limitations.

[69] In the *1974 Medical Radiocommunications Systems Report and Order*, the 150.775 MHz and 150.790 MHz channels were set aside for low-power use, and envisioned as suitable for communicating from a portable unit to an ambulance or other emergency vehicle for retransmission to a base station, and limited to 2.5 watts. *1974 Medical Radiocommunications Systems Report and Order* at para. 38; Amendment of Parts 2 and 89 of the Commission's Rules and Regulations Relating to Communications for Emergency Medical Services, Docket No. 19880, *Memorandum Opinion and Order*, 49 F.C.C.2d 368 (1974) at para. 15. When the Commission established the Emergency Medical Radio Service in 1993, the power limitation and usage restrictions to portable hand-held devices were removed. Amendment of Part 90 of the Commission's Rules to Create the Emergency Medical Radio Service, PR Docket No. 91-72, *Report and Order*, 8 FCC Rcd 1454 (1993) at paras. 18 and 26 (*EMRS R&O*).

not been coordinated with NTIA.[70] At this time, the Commission has issued 1514 licenses, 14 of which have been coordinated with NTIA, and NTIA has made 33 assignments. The following table lists the current use of the frequencies and is based on an October 21, 2004 review of the Commission's Universal Licensing System (ULS) database and the NTIA's Government Master File (GMF) (unclassified version, current as of Oct. 2, 2004):

Review of the NTIA and FCC Licensing Databases				
Frequency	Listed in US216?	Federal assignments in GMF database	Non-Federal assignments in GMF database	Non-Federal licenses in the ULS database
150.7750 MHz	Yes	7	2	509
150.7825 MHz	No	16	1	32
150.7900 MHz	Yes	3	4	424
150.7975 MHz	No	0	1	25
163.2500 MHz	Yes	7	6	524
Totals		33	14	1514

40. In the *NPRM*, we proposed to cease licensing stations on the frequencies of 150.7825 MHz and 150.7975 MHz, but to permit existing stations that are authorized as the effective date of the *Report and Order* in this proceeding to continue existing narrowband operations on the frequencies indefinitely. We proposed to modify footnote US216 to list the specific paging channel frequencies in lieu of the 152-152.0150 MHz and 163.2375-163.2625 MHz bands. We also proposed to restrict the use of the frequencies 150.775 MHz, 150.790 MHz, and 163.250 MHz in a manner consistent with the medical radiocommunications systems concept (which would be more consistent with the original 1974 provisions but does not reflect current practice). To implement this specialized use, we also asked whether the use of the mobile channels should be limited to hand-held units and restricted to 2.5 watts of power, and proposed to change the frequency coordinator for the paging channel frequencies to PM.

41. *Comments*. IMSA/IAFC opposes our proposal to cease licensing the frequencies 150.7825 MHz and 150.7975 MHz. IMSA/IAFC also requests that use of the MED channels not be limited to medical radiocommunication systems and asks that the service designation of the paging channel 163.250 MHz not be changed from PS to PM, because it believes that such actions would degrade public safety communications and harm the public.[71] Yamhill also requests that the frequency coordinator for paging channel 163.250 MHz not be changed.[72] Likewise, the 152 MHz Paging Commenters request that the frequency coordinator for the 152.0075 MHz not be changed.[73]

42. *Decision*. We will no longer license non-Federal stations on the frequencies 150.7825 MHz and 150.7975 MHz. These frequencies, which were never incorporated into footnote US216, lie within the Federal military band and additional authorizations would limit the future deployment of vital military systems. IMSA/IAFC objects to this proposal, noting that these channels have been used by public safety licensees in many large cities and concluding that such use "far outweighs" the public gain

[70] In order to ensure the various Federal and non-Federal users of this spectrum continue to enjoy interference-free operations, and at the request of NTIA, we are working to add information regarding our existing licensees to the records that NTIA maintains as part of the coordination process, and to coordinate new licenses issued in the band.

[71] IMSA/IAFC Comments at 4.

[72] Yamhill Comments at 3.

[73] VALLEY COM Comments at 5; CAPCOM Comments at 5; ADCOMM Comments at 5.

in limiting use of the channels.[74] We disagree. Because these channels were not part of the original 1974 agreement with NTIA, but were instead only recently licensed to non-Federal applicants as part of the *Refarming Proceeding*, and because of NTIA's interest in making the band available for narrowband Federal systems – including those used by the military – we conclude that the discontinuance of new licensing of these frequencies will benefit the public good by allowing vital new Federal systems to deploy. We recognize the interest in maintaining existing operations in the band. Accordingly, and with the concurrence of NTIA, we are permitting the existing mobile stations that are authorized as of effective date of this *Report and Order* to use the frequencies 150.7825 MHz and 150.7975 MHz indefinitely with their current usage designation.[75] This action will grandfather 57 non-Federal licenses (which represents less than 4 percent of the total licenses issued on the five channels discussed in this section).

43. We are adopting our proposal to revise footnote US216 to list the available frequencies (152.0075 MHz and 163.250 MHz) in lieu of the 152-152.0150 MHz and 163.2375-163.2625 MHz bands. No party commented on this proposal. This action makes clear that only a single frequency in the 152-152.0150 MHz band is available for Federal use and that only a single frequency in the 163.2375-163.2625 MHz band is available for non-Federal use. We are also revising, in concurrence with NTIA, the two non-Federal bands at 460 MHz in footnote US216 in order to align the non-Federal 460 MHz bands in footnote US216 with the Commission's revised Rules and to formally provide Federal agencies access to all 30 of the new MED channels in the 463 MHz and 468 MHz bands.[76] These revisions to footnote US216 are included in Appendix A.

44. With respect to new licenses on the mobile channels 150.775 MHz and 150.790 MHz and the paging channel 163.250 in the Federal band, we will adopt our proposal to implement, on a going forward basis, the footnote US216 requirement that the use of these channels be limited to medical radiocommunications systems. This action will support Federal users that have made and implemented spectrum usage plans based on the text of the footnote, and will have the added benefit of harmonizing use of these channels with the concept of medical radiocommunications systems as it was first adopted in 1974. We note that several commenters oppose this change. While we recognize that the current usage practice is beneficial in that it permits a broad range of medical and public safety uses of the frequencies, we cannot reconcile an expansion of such use with our obligation to Federal users that we license these frequencies in the Federal bands on a limited basis for medical radiocommunications systems, as reflected in footnote US216. We will, with the concurrence of NTIA, permit existing licensees to continue even if such operations are not restricted to medical radiocommunications systems operations. IMSA/IAFC describes how the mobile channels are currently used for critical inter-service communications purposes by public safety agencies, and notes that it is unaware of any instances where public safety entities have caused interference to Federal users.[77] Permitting these operations to continue will serve the public interest because these entities have been able to successfully operate in the band, and the discontinuance of these existing operations public safety operations would jeopardize ongoing public safety operations and subject public entities to unanticipated and unbudgeted expenses. Also, we

[74] IMSA/IAFC Comments at 5.

[75] See para. 7, *supra*, where we discuss the current usage designation of these 57 licenses.

[76] The Commission recently expanded the number of 460 MHz MED channels from ten frequency pairs to 40 frequency pairs. This was done by using a 6.25 kHz spacing between the center frequencies, which allowed us to add three new MED channels between the existing center frequencies. 47 C.F.R. § 90.20(d)(65) and (66).

[77] IMSA/IAFC Comments at 3.

will not change the existing frequency coordinator for the paging channel frequencies, as proposed in the *NPRM.*

45. We are limiting all operations on the mobile channels for licenses issued after the effective date of this *Report and Order* to a maximum output power of 100 watts ERP. IMSA/IAFC objected to our proposal to limit the transmitter output power of the mobile channels to 2.5 watts, arguing that these channels provide needed frequency separation from the primary Public Safety allocation for two-frequency repeater operations.[78] A general review of our licensing data indicates that mobile stations operating on these frequencies have been authorized an output power between 2.5 and 200 watts ERP, but with the majority in the range of 30 to 100 watts.[79] We continue to believe that we must take steps to harmonize non-Federal use of the mobile channels, and that we should work to complement rather than frustrate NTIA's narrowbanding efforts in the Federal bands. However, we are also cognizant of the difficult funding challenges faced by public safety users of these frequencies, recognize the important work these entities routinely undertake, and appreciate the intensive use of these bands as described in IMSA/IAFC's comments. The 100 watt limit we establish for new licenses caps these channels at a lower power level than other channels in the 150-174 MHz band, and will promote wider availability of these channels for both new Federal and non-Federal users. However, the 100 watt limit we set is substantially larger than the 2.5 watt proposal, and is consistent with the majority of current use in the band. We will allow licensees to continue existing operations under their existing authorizations, subject only to the more general narrowbanding requirements we have adopted above. We also explicitly prohibit airborne operations by both existing and future mobile channel licensees. Such operations have the potential to cause wide-area interference, and adoption of the prohibition will promote continued cooperative use of the band by both Federal and non-Federal entities and is consistent with Section 4.3.11 of the *NTIA Manual.*[80]

46. Finally, with respect to the non-Federal paging channel 150.0075 MHz – which as discussed *supra* we are not narrowbanding – we are removing limitation 19.[81] We conclude that this limitation, which reserved the frequency 150.0075 MHz for assignment to stations for intersystem operations only and which required that these operations be primarily base-mobile communications, overly limits widespread use of the band. In addition, because this paging channel is within a non-Federal band, we will continue to make it available for a full range of medical and public safety uses and will not restrict its future use to medical radiocommunications systems exclusively.

2. Stolen Vehicle Recovery Systems (US312)

47. *Background.* Footnote US312 states that the frequency 173.075 MHz may be authorized on a primary basis to non-Federal stations in the Police Radio Service for Stolen Vehicle Recovery Systems (SVRS) and limits the maximum authorized bandwidth for SVRS operations to 20 kHz.[82] This

[78] *Id.* at 3-4.

[79] In addition, we have authorized control stations and base stations with an output power in range of 45-60 watts ERP. In conducting this overview study on October 14, 2004, the staff reviewed many (but not all) of the call signs that authorize the use of the Public Safety channels.

[80] We do not believe that there currently is any Public Safety airborne use on these channels.

[81] 47 C.F.R. § 90.20(d)(19).

[82] Footnote US312 reads as follows: The frequency 173.075 MHz may also be authorized on a primary basis to non-Government stations in the Police Radio Service (with a maximum authorized bandwidth of 20 kHz) for stolen vehicle recovery systems. 47 C.F.R. § 2.106, footnote US312.

frequency is listed in the Public Safety Pool Frequency Table and its use is limited to SVRS but is available on a shared basis with Federal operations.[83] LoJack, currently the only SVRS operator on this frequency in the United States, operates its network on a 20 kHz wide channel in cooperation with state and local police departments.[84]

48. NTIA's 12.5 kHz plan for the 162-174 MHz band calls for Federal agencies to be licensed on the adjacent frequencies 173.0625 MHz and 173.0875 MHz. In the *NPRM*, we noted that new Federal operations that are 12.5 kHz away from the SVRS center frequency could cause interference to wideband SVRS systems that could prove burdensome to identify and resolve. Because of the significant investment in SVRS by the general public and the fact that SVRS equipment has been deployed by numerous law enforcement agencies, we sought comment as to whether it would be advisable to establish a narrowband transition plan for SVRS users at 173.075 MHz.[85]

49. *Decision.* LoJack, the only commenter to address this issue, supports creation of a narrowbanding plan for SVRS systems.[86] In order to preserve the substantial utility of the existing wideband SVRS for consumers and law enforcement agencies, LoJack requests that the Commission provide at least a 14 year transition period from the effective date of final rules in this proceeding. LoJack states that this schedule would give it four years to develop and deploy a narrowband system and would give ten years for police departments and consumers relying on the installed base of wideband equipment to continue to receive service once the narrowband system is deployed.[87]

50. We find LoJack's proposal persuasive. Given the need to develop and test new equipment, as well as the scope of the transition, a fourteen-year transition provides sufficient time for SVRS to adopt narrowband technology in a manner that does not jeopardize the public benefits associated with the service.[88] We also note LoJack's claims that it will not be able to continue serving its

[83] 47 C.F.R. §§ 90.20(c)(3), 90.20(e)(6). Applications for base stations are coordinated with NTIA.

[84] *See* LoJack Comments at 3. In its most recent filing before the Commission, a Petition for Rulemaking (Petition) filed on October 25, 2004, LoJack claims that its SVRS currently has more than 3 million installed vehicle location units, more than 11,000 vehicle tracking units, and 125 base stations. Although we do not address the merits of LoJack's Petition in the instant decision, we note it insofar that represents LoJack's most current description of its SVRS system.

[85] *NPRM* at para. 45.

[86] *See* Comments of LoJack Corporation at 1.

[87] *Id.* at 3. LoJack estimates the vehicles on which its devices are installed are on the road for an estimated period of 10 years. Thus, the extended implementation period for a narrowband SVRS channel would account for a normal transition cycle and would avoid the possibility that most consumers would have to return and replace vehicle-installed equipment in order to maintain SVRS service. We note that LoJack has raised additional issues, as part of its Petition for Rulemaking, that are outside the scope of this proceeding and that we do not address herein. Moreover, numerous law enforcement entities have filed comments supportive of LoJack's Petition for Rulemaking, some of which appear both in the record associated with the rulemaking – RM-11135 –and the docket of this proceeding. We do not address those filings herein, with one exception: to the extent that some commenters express support for a fourteen year transition period for LoJack, we note that we are adopting a transition plan that is consistent with those *ex parte* comments.

[88] LoJack previously estimated that it will need to replace 2,000 police tracking computers, 125 base stations and 125 uplink receivers. LoJack Comments at 4. LoJack's description in its October 25, 2004 Petition of its vehicle location units located in motor vehicles, vehicle tracking units located in police vehicles, and base stations licensed to law enforcement agencies suggests that the amount of equipment it would need to replace has subsequently grown.

wideband customers during the transition period if Federal agencies begin operating on the new adjacent narrowband frequencies of 173.0625 MHz and 173.0875 MHz.[89] We will work with NTIA to prevent Federal entities from being assigned new narrowband channels that are spaced only 12.5 kHz away from the SVRS center frequency until after the end of the transition period (*i.e.*, approximately 2019), and will use our role as a voting member of the FAS to ensure that the primary status afforded to SVRS continues to be recognized during the Federal frequency assignment process.[90] As we previously noted, LoJack is currently the only SVRS licensee. Because subsequent SVRS licensees will have to deploy equipment to begin service, all new licensees will be required to employ narrowband operations without the benefit of a transition period. To reflect these new narrowband requirements in the SVRS, we are amending – in concurrence with NTIA – footnote US312, which is shown in Appendix A. Accordingly, we are amending Section 90.20 by revising paragraph (e)(6) to reflect the 12.5 kHz maximum authorized bandwidth for SVRS and associated transition plan.

3. Hydro Channels and Protection for Radio Astronomy (US13 and US117)

51. *Background.* Non-Federal operations on the Hydro channels currently consist of 28 channels authorized pursuant to footnote US13 for the specific purpose of transmitting hydrological and meteorological data in cooperation with Federal agencies, as well as three additional grandfathered channels for licensees that were in operation as of June 11, 1962.[91] Because non-Federal use of the Hydro channels is on the condition that no harmful interference will be caused to Federal stations, a licensee operating on these channels may receive interference without recourse and must take immediate corrective action to eliminate any interference it causes to the Federal station including, if necessary, cessation of operation.[92] Because the Hydro Committee is responsible for coordinating all requests for the use of the Hydro channels and for providing comments on such requests to the FCC and the FAS Secretariat of the IRAC, it works closely with Commission licensees and applicants to ensure optimum use of the Hydro channels that is consistent with national hydrological data collection objectives.

52. On February 24, 2000, NTIA updated the *NTIA Manual* to implement a revised channel plan that specifies new and modified narrowband Hydro channels. The new plan for the 169-172 MHz band segment uses the center frequencies of the 20 existing wideband channels and adds 16 new center

[89] *Id.* at 6.

[90] Because LoJack's mobile units, by their nature and deployment, cannot be readily coordinated with NTIA, the new adjacent narrowband frequencies of 173.0625 MHz and 173.0875 MHz necessarily cannot be used at this time. The ten years allotted for the installation of new equipment (once it has been developed and tested), discussed *supra*, will provide sufficient time for existing wideband vehicle-based equipment largely to be replaced with new narrowband vehicle-based equipment. The technical specifications for SVRS operations are listed in Section 90.20(e)(6) of our Rules.

[91] These operations consist of fixed stations in the 169-172 MHz and 406-416 MHz bands, the emissions of which are used for the automatic transmission of either hydrological or meteorological data, or both. *See* 47 C.F.R. § 90.265(a). The National Oceanic and Atmospheric Administration (NOAA) and other Federal agencies use frequencies within the bands for hydrological and meteorological data collection with authorized non-Federal users of the Hydro channels, consisting of state and local governments and Industrial/Business Pool users, supplementing NOAA's data collection activities One application of these systems is to measure rainfall and, in response to a certain level registered in a rain gauge, to provide an alert downstream that conditions exist that may cause flash flooding.

[92] 47 C.F.R. § 90.265(a) *See also* 47 C.F.R. § 90.265(a)(2) (conditioning assignment of these frequencies "on a secondary basis to Federal Government stations").

frequencies to create four groupings of nine contiguous channels each.[93] The new plan for the 406.1-420 MHz band segment adds seven channels and removes three channels to create 12 narrowband channels that consist of two groups of three contiguous channels each; one group of two contiguous channels; and four non-contiguous channels.[94] NTIA has designated two of the existing channels – 406.125 MHz and 406.175 MHz – to be paired with two of the new channels – 415.125 MHz and 415.175 MHz – to allow for paired Hydro operations. In the *NPRM*, we proposed to revise the Commission's Hydro Plan to make it consistent with Federal use and to make minor changes to our Rules.[95] These proposed modifications make the requirement that non-Federal applicants must prior-coordinate their requests through the Hydro Committee especially important, given the Hydro Committee's interest in providing for continued efficient use of the Hydro channels.

53. We also noted in the *NPRM* that NTIA has recommended revisions to Footnote US117. The footnote currently limits all new authorizations 406.1-410 MHz band (in which the Hydro channels used by non-Federal licensees are located) to a transmitter output power of 7 watts per kHz of necessary bandwidth and subjects new fixed station authorizations near four RAS observatories to prior coordination.[96] We proposed to implement NTIA's recommendation, which would revise the transmitter output power limitation for stations in the fixed and mobile services operating in the 406.1-410 MHz band to 125 watts and would update the RAS site coordination information.[97]

54. *Decision.* We did not receive any comments that addressed our proposals for the Hydro channels. We will adopt our proposals and revise our Rules to reflect an updated Hydro channel plan that is consistent with the channel plan shown in the *NTIA Manual*. Consistency between Federal and non-Federal band plans furthers the public interest and safety by maintaining a ready flow of hydrologic and metrological data between non-Federal and Federal entities. This decision also recognizes the fact that non-Federal Hydro stations operation is closely coordinated the Hydro Committee.[98] We note, for example, that the Hydro Committee has begun encouraging the use of narrowband equipment by non-Federal applicants, and a review of our licensing database indicates that while many non-Federal Hydro operations still use wideband channels, some narrowband use is prevalent among the more newly licensed channels.[99]

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[93] The center frequencies of the new channels are 169.4375 MHz, 169.4625 MHz, 169.4875 MHz, 169.5125 MHz, 170.2375 MHz, 170.2625 MHz, 170.2875 MHz, 170.3125 MHz, 171.0375 MHz, 171.0625 MHz, 171.0875 MHz, 171.1125 MHz, 171.8375 MHz, 171.8625 MHz, 171.8875 MHz, and 171.9125 MHz. The plan does not recognize the three previously grandfathered channels (169.575 MHz, 170.375 MHz, and 171.975 MHz.).

[94] The center frequencies of the new channels are 412.6625 MHz, 412.6875 MHz, 412.7125 MHz, 412.7375 MHz, 412.7625 MHz, 415.125 MHz, and 415.175 MHz.

[95] *NPRM* at paras. 17-23.

[96] In 1970, the secondary RAS allocation at 404-406 MHz was shifted up in frequency to 406-410 MHz and given primary status. At that time, Federal operations that exceeded this power density limit were grandfathered.

[97] *NPRM* at 50.

[98] Non-Federal applicants are required to prior-coordinate their requests through the Hydro Committee before submitting an authorization request to the Commission, pursuant to the procedures contained in Section 90.265 of our Rules. *NTIA Manual* at Section 8.3.6, paragraph 4.a; 47 C.F.R. § 90.265(a)(4).

[99] Historically, the Commission granted Hydro licenses with an authorized bandwidth of 20 kHz. However, the Commission has recently granted some Hydro licenses with narrower authorized bandwidths, such as 12.5 kHz, 11 kHz, 5.7 kHz, and 5.6 kHz. WPXX663 is a good example of a new narrowband channel. This 169.425 MHz Hydro channel was licensed July 26, 2003, with an authorized bandwidth of 11 kHz.

55. We discussed, above, the process for Commission licensees to narrowband the existing Hydro channels that are to be retained by NTIA.[100] We now also require licensees operating on the Hydro channels that we are removing from the Hydro channel plan to modify their equipment and station licenses and migrate to a center frequency under the new Hydro channel plan on a timetable as advised by the Hydro Committee and approved by NTIA and the Commission.[101] As of January 1, 2005, licensees of stations transmitting on the frequency 169.575 MHz should be prepared to cease or relocate operations, if their wideband operations cause harmful interference to Federal operations. As of January 1, 2008, licensees of stations transmitting on the frequencies 409.675 MHz, 409.725 MHz, or 412.625 MHz should be prepared to cease or relocate operations, if their wideband operations cause harmful interference to Federal operations. Finally, all licensees must cease operating on these channels after January 1, 2013.

56. To implement these proposals, we are revising our Rules to reflect the new Hydro channel plan and our plan for transitioning to narrowband channels, as well as to make other necessary modifications to reflect the Hydro operations.[102] Also, in concurrence with NTIA, we are revising footnote US117 to provide more effective protection of RAS reception in the 406.1-410 MHz band.[103] These revisions are included in the final rules listed in Appendix A.

4. Forest Firefighting and Conservation Channels (US8)

57. *Background.* Footnote US8 states that the use of nine channels in the 170-173 MHz band may be authorized for stations in the fixed and land mobile services that are operated by non-Federal forest firefighting agencies on the condition that no harmful interference will be caused to Federal stations.[104] These channels are available to Public Safety Pool eligibles in Section 90.20 of our

[100] *See supra* paras. 29 (describing when all new operations must operate on narrowband channels and describing a waiver process for licensees wanting to operate new wideband operations after those dates); 31 (setting dates by which existing operations must transition to narrowband channels); and 33 (noting that secondary operations must be prepared to narrowband or cease operation once new Federal operations begin using the band).

[101] In the 169-172 MHz band, one licensee – the State of California – has been authorized 15 fixed stations on the frequency 169.575 MHz under the 1962 grandfathering rules. There are no non-Federal licensees operating on the other two channels in the band. A total of nine non-Federal licensees are authorized to operate fixed stations on the three 406-416 MHz band channels, as follows: (1) 83 fixed stations at 409.675 MHz; (2) ten fixed stations at 409.725 MHz; and (3) 97 fixed stations at 412.625 MHz. We anticipate two situations where the Hydro Committee would advise a licensee to migrate to the new channels: for compatibility reasons so that all entities on a common system can successfully communicate, and if an interference situation occurs that cannot be resolved.

[102] See Appendix A, Section 90.265(a). We are also updating Section 90.20 of our Rules to reflect the fact that Hydro channels are available to Public Safety Pool eligibles, such as state and local governments; revising the Industrial/Business Pool Frequency Table in Part 90 of our Rules to reflect the 406-416 MHz band in which Hydro channels will now be available; and amending, in concurrence with NTIA, footnote US13 of Section 2.106 to incorporate the new band plan.

[103] Limiting transmitter output power of stations in the fixed and mobile services operating in the 406.1-410 MHz band to 125 watts, as proposed in the *NPRM*, should not affect existing licensees in the band. A review of our licensing records conducted on June 24, 2004 indicates that most of the non-Federal fixed stations operating on these four Hydro channels have a transmitter output power of 50 watts or less and that the maximum output power that the Commission has authorized is 100 watts.

[104] 47 C.F.R. § 2.106, footnote US8. Four frequencies (170.475, 171.425, 171.575, and 172.275 MHz) are designated for assignment east of the Mississippi River and five frequencies (170.425, 170.575, 171.475, 172.225 and 172.375 MHz) are designated for assignment west of the Mississippi River. Two of these channels – 172.275 (continued....)

Rules and are reserved primarily for assignment to state licensees.[105] In the *NPRM*, we proposed to require that applications for the use of the Forest Firefighting and Conservation channels be accompanied by a letter of concurrence by the sponsoring Federal agency, consistent with current licensing practice; and to create a new subsection of Section 90.265 of our rules to better reflect these channels' status as part of the Federal band.

58. *Decision.* We did not receive any comments that addressed our proposals. We will adopt a requirement that applications for use of these channels be accompanied by a letter of concurrence. Based on our experience with past applications that included such a letter, we believe that this practice aids the coordination of assignments between NTIA and the Commission. We are also moving the existing limitations that are contained in Section 90.20 of our Rules into a new subsection of Section 90.265. Section 90.265 of our Rules already describes procedures by which we license two services permitted on Federal bands pursuant to United States footnotes – Hydro operations and wireless microphones. We conclude it would be convenient and consistent to expand this section to include similarly situated services including, *inter alia*, the Forest Firefighting and Conservation channels.

5. Public Safety Channels (US11)

59. *Background.* Footnote US11 authorizes public safety radio services use of two channels on 166.25 MHz and 170.15 MHz for locations within 150 miles of New York City, on the condition that harmful interference is not caused to present or future Federal stations in the 162-174 MHz band.[106] In the *NPRM*, we proposed to modify our Rules to accurately reflect non-Federal licensee's role in this shared band by, *inter alia*, moving the rules pertaining to these channels into a new subpart to Section 90.265 of our Rules and more plainly stating the secondary nature of non-Federal operations on the band.

60. *Decision.* IMSA/IAFC is the only party to address the proposals dealing with the two Public Safety channels. IMSA/IAFC states that these Public Safety channels are widely assigned to agencies in the New York City metropolitan area and nearby environs that are expected to provide critical support to homeland security operations.[107] IMSA/IAFC states that the current coordination procedures between Public Safety and Federal agencies are sufficient to address any concerns regarding possible interference, and urges us to "tread cautiously" to implement a policy so that Federal agencies would implement narrowband operations on the new channels adjacent to the Public Safety channels

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and 172.375 MHz) are designated for assignment west of the Mississippi River. Two of these channels – 172.275 MHz and 171.475 MHz – are further limited in that they may also be used by non-Federal conservation agencies for mobile relay operation.

[105] 47 C.F.R. § 90.20(c)(3). There are 21 licensees authorized to use the forest firefighting/conservation channels, of which, 19 have been issued to states and state agencies. The other two licensees are the County of Los Angeles and a non-profit organization in Puerto Rico.

[106] 47 C.F.R. § 2.106, footnote US11. These frequencies are available under Part 90 of our Rules to Public Safety Pool eligibles within 150 miles of New York City. 47 C.F.R. § 90.20(c)(3). Footnote US11 also authorizes remote pickup broadcast operations for certain locations within the continental United States. The transition plan for remote pickup broadcast stations is codified at 47 C.F.R. § 74.462(b), table note 4, and requires narrowband operations to be in place no later than January 1, 2005. *See also* Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission's Rules, ET Docket No. 01-75, *Report and Order*, 17 FCC Rcd 22979 (2003), paras. 116-120 and Appendix A, n. 26. Because the use of narrowband equipment by remote pickup broadcast stations has previously been addressed by the Commission, it is not further discussed in this proceeding.

[107] *See* IMSA/IAFC Comments at 2 & 6.